

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 2 of 11

In The Claims

1-38. (Cancelled)

39. (Currently Amended) An article of manufacture for polishing a substrate comprising a polishing article having a center portion and a perimeter portion, a polishing surface defined on the center portion, a plurality of perforations formed in at least a portion of the center portion of the polishing article for flow of material therethrough, a plurality of grooves disposed in the polishing surface, ~~a center portion and a perimeter portion, the center portion having a plurality of perforations,~~ and wherein the center portion of the polishing article conducts electricity ~~to the substrate~~ across the polishing surface.

40. (Currently Amended) The article of claim 39, wherein at least one ~~a portion~~ of the plurality of perforations ~~intersect~~ intersects with at least one ~~a portion~~ of the plurality of grooves on the polishing surface.

41. (Previously Presented) The article of claim 39, wherein each of the perforations has a diameter of between about 0.016 and about 0.5 inches and are disposed between about 0.1 and about 1.0 inch from one another.

42. (Previously Presented) The article of claim 39, wherein the center portion of the polishing article comprises a conductive material or a dielectric material having conductive elements disposed therein.

43. (Previously Presented) The article of claim 39, wherein the plurality of grooves form a pattern comprising substantially circular concentric grooves, an X-Y pattern, or a triangular pattern on the polishing surface.

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 3 of 11

44. (Previously Presented) The article of claim 43, wherein a portion of the plurality of grooves are non-intersecting and are spaced between about 0.03 and about 0.3 inches apart.

45. (Previously Presented) The article of claim 39, wherein the polishing article is disposed on a perforated sub-pad.

46. (Previously Presented) The article of claim 45, wherein the perforated sub-pad comprises a plurality of pores disposed therein for flow of material therethrough and the plurality of pores of the perforated sub-pad and the plurality of perforations in the polishing article are aligned for flow of material through the perforated sub-pad and the polishing article.

47. (Currently Amended) An article of manufacture for polishing a substrate comprising a polishing article having a polishing surface, a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein the polishing article comprises a conductive material or a dielectric material having conductive elements disposed therein and is adapted to conduct electricity across the polishing surface.

48. (Previously Presented) The article of claim 47, wherein a portion of the plurality of perforations intersect with a portion of the plurality of grooves on the polishing surface.

49. (Previously Presented) The article of claim 47, wherein each of the perforations has a diameter of between about 0.016 and about 0.5 inches and are disposed between about 0.1 and about 1.0 inch from one another.

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 4 of 11

50. (Previously Presented) The article of claim 47, wherein the plurality of grooves form a pattern comprising substantially circular concentric grooves, an X-Y pattern, or a triangular pattern on the polishing surface.

51. (Previously Presented) The article of claim 50, wherein a portion of the plurality of grooves are non-intersecting and are spaced between about 30 mils and about 300 mils apart.

52. (Previously Presented) The article of claim 47, wherein the polishing article is disposed on a perforated sub-pad.

53. (Previously Presented) The article of claim 52, wherein the perforated sub-pad comprises a plurality of pores disposed therein for flow of material therethrough and the plurality of pores of the perforated sub-pad and the plurality of perforations in the polishing article are aligned for flow of material through the perforated sub-pad and the polishing article.

54. (Previously Presented) The article of claim 47, wherein the polishing article has a center portion and a perimeter portion, the center portion having a plurality of perforations.

55. (Previously Presented) The article of claim 54, wherein the perimeter portion of the polishing article conducts electricity to the substrate surface.

56. (Currently Amended) An article of manufacture for polishing a substrate comprising a polishing article having a conductive polishing surface that provides a conductive path over at least a portion of the polishing surface, a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein each of the perforations

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 5 of 11

has a diameter of between about 0.016 and about 0.5 inches and are disposed between about 0.1 and about 1.0 inch from one another.

57. (Currently Amended) An article of manufacture for polishing a substrate comprising a polishing article having a conductive polishing surface that provides a conductive path over at least a portion of the polishing surface, a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface, wherein the polishing article is disposed on a perforated sub-pad.

58. (Previously Presented) The article of claim 57, wherein the perforated sub-pad comprises a plurality of pores disposed therein for flow of material therethrough and the plurality of pores of the perforated sub-pad and the plurality of perforations in the polishing article are aligned for flow of material through the perforated sub-pad and the polishing article.

59. (Currently Amended) An article of manufacture for polishing a substrate comprising a polishing article having a conductive polishing surface that provides a conductive path over the polishing surface, ~~and~~ a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough, and a plurality of grooves disposed in the polishing surface.

60. (Cancelled)

61. (Previously Presented) The article of claim 59, wherein the conductive polishing surface comprises a conductive material.

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 6 of 11

62. (Previously Presented) The article of claim 59, wherein the conductive polishing surface comprises a dielectric material having conductive elements embedded therein.

63. (Cancelled) An article of manufacture for polishing a substrate comprising a polishing article having a conductive polishing surface that provides a conductive path over the polishing surface and a plurality of perforations formed in at least a portion of the polishing article for flow of material therethrough.

64. (Cancelled)

65. (Cancelled)

66. (Cancelled)

67. (New) The article of claim 39, wherein the center portion of the polishing article comprises a dielectric material having conductive elements disposed therein, wherein the conductive elements are electrically connected to one another in the polishing article.

68. (New) The article of claim 39, wherein the perimeter portion of the polishing article conducts electricity across the upper surface of the perimeter portion of the polishing article.

69. (New) The article of claim 68, wherein the perimeter portion of the polishing article comprises a dielectric material having conductive elements disposed therein, wherein the conductive elements are electrically connected to one another in the polishing article.

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 7 of 11

70. (New) An article of manufacture for polishing a substrate comprising a polishing article having a conductive polishing portion and a non-conductive polishing portion, wherein the conductive and non-conductive portions are concentric about a center of the polishing article and wherein the conductive portion is surrounded by the non-conductive portion.

71. (New) An article of manufacture for polishing a substrate comprising a polishing article having a polishing surface comprising a center portion and a perimeter portion, a plurality of perforations formed in at least the center portion of the polishing article for flow of material therethrough, a plurality of grooves disposed in at least the center portion of the polishing surface, and wherein at least one of the center portion or the perimeter portion of the polishing article conducts electricity across the polishing surface.

72. (New) The article of claim 71, wherein the perimeter portion is free of perforations and grooves.

73. (New) The article of claim 71, wherein the center portion is dielectric and the perimeter portion is conductive.

74. (New) The article of claim 73, wherein the perimeter portion comprises a dielectric material having conductive elements disposed therein, wherein the conductive elements are electrically connected to one another in the polishing article to conduct electricity across the perimeter portion of the polishing surface.

75. (New) An article of manufacture for polishing a substrate, comprising:
a polishing article having a perimeter portion and a center portion;
a polishing surface defined on the center portion, wherein the center portion of the polishing article conducts electricity across the polishing surface;

RESPONSE TO OFFICE ACTION
Serial No. 10/026,854
Page 8 of 11

a plurality of perforations formed in the center portion of the polishing article for flow of material therethrough, wherein each of the perforations has a diameter of between about 0.016 and about 0.5 inches and are disposed between about 0.1 and about 1.0 inch from one another; and

a plurality of grooves disposed in the polishing surface, wherein a portion of the plurality of grooves are non-intersecting and are spaced between about 0.03 and about 0.3 inches apart.

76. (New) The article of claim 71, wherein the polishing article is disposed on a perforated sub-pad comprising a plurality of pores disposed therein for flow of material therethrough, wherein the plurality of pores of the perforated sub-pad and the plurality of perforations in the polishing article are aligned for flow of material through the perforated sub-pad and the polishing article.